NASA Research Being Shared Through Live, Interactive Video Tours

Left to right: Kurt Blankenship, Dr. Judy Van Zante, and Arlette Haeberle in the Icing Research Tunnel providing details on an icing experiment during the live video tour.

On June 2, 2000, the NASA Glenn Research Center Learning Technologies Project (LTP) coordinated the first live remote videoconferencing broadcast from a Glenn facility. The historic event from Glenn's Icing Research Tunnel featured wind tunnel technicians and researchers performing an icing experiment, obtaining results, and discussing the relevance to everyday flight operations and safety. After a brief overview of its history, students were able to "walk through" the tunnel, stand in the control room, and observe a live icing experiment that demonstrated how ice would grow on an airplane wing in flight through an icing cloud. The tour was interactive, with a spirited exchange of questions and explanations between the students and presenters.

The virtual tour of the oldest and largest refrigerated icing research tunnel in the world was the second of a series of videoconferencing connections with the AP Physics students at Bay Village High School, Bay Village, Ohio. The first connection, called Aircraft Safety and Icing Research, introduced the Tailplane Icing Program. In an effort to improve aircraft safety by reducing the number of in-flight icing events, Glenn's Icing Branch uses its icing research aircraft to conduct flight tests. The presenter engaged the students in discussions of basic aircraft flight mechanics and the function of the horizontal tailplane, as well as the effect of ice on airfoil (wing or tail) surfaces. A brief video of actual flight footage provided a view of the pilot's actions and reactions and of the horizon during

tailplane icing conditions. The event, which has been archived at http://www.grc.nasa.gov/WWW/K-12/IRT, includes online, interactive post-conference activities and assessment tools.

The conference was made possible through the cooperative efforts of Glenn's Icing Branch, Computer Services Division, Engineering Design and Analysis Division, and LTP. This videoconference demonstrates the tremendous potential of the NASA Glenn LTP distance learning program. In addition, because a network connection was successfully set up between the facility, a midpoint videoconference room at Glenn, and the school itself, the groundwork has been established for further virtual tours of Glenn's facilities. Other outreach groups can now use this demonstrated capability for a number of different functions, including celebrating the past 100 years of flight. Glenn's LTP is part of NASA's agencywide Learning Technologies Project, which is managed by the NASA Ames Research Center.

Glenn Learning Technologies Project (http://www.grc.nasa.gov/WWW/K-12/)
Virtual Tour of the Glenn Icing Research Tunnel
(http://www.grc.nasa.gov/WWW/K-12/IRT/)

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